

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau(43) International Publication Date
8 July 2004 (08.07.2004)

PCT

(10) International Publication Number
WO 2004/057580 A3(51) International Patent Classification⁷: H04N 7/167(21) International Application Number:
PCT/US2003/040479(22) International Filing Date:
17 December 2003 (17.12.2003)

(25) Filing Language: English

(26) Publication Language: English

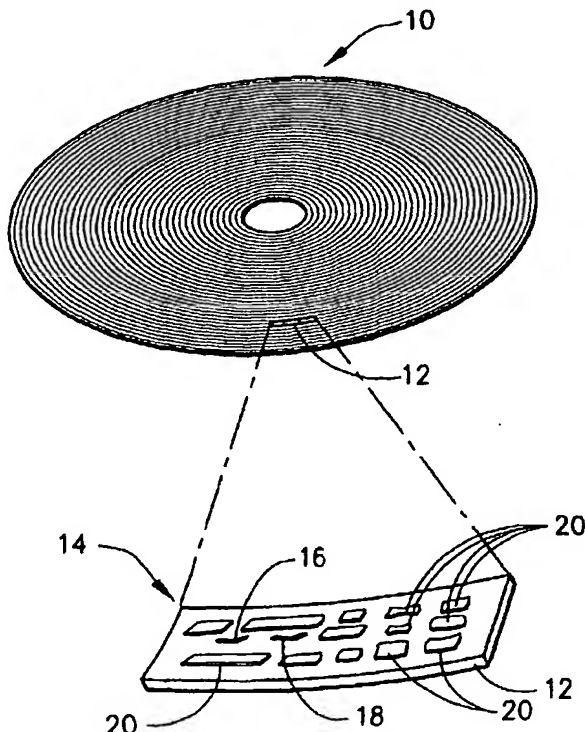
(30) Priority Data:
60/434,310 17 December 2002 (17.12.2002) US

(71) Applicants and

(72) Inventors: DRISCOLL, William, J. [US/US]; 5808
S. Dayton Street, Greenwood Village, CO 80111 (US).
STEVENSON, William, V. [US/US]; 12515 Washington
Lane, Apt. 29D2, Englewood, CO 80112 (US). LARSEN,
Chad, M. [US/US]; 5377 S. Foresthill Street, Littleton,
CO 80120 (US).(74) Agents: HENSON, Michael, R. et al.; Timothy J. Martin,
P.C., Suite 200, 9250 W. 5th Avenue, Lakewood, CO 80226
(US).(81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.(84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: COPY PROTECTED OPTICAL MEDIA STORAGE DEVICE, ALONG WITH METHODOLOGIES FOR MANUFACTURING AND AUTHENTICATING THE SAME



(57) Abstract: An optical media storage (10) of a selected format that is to be read by an optical reader and comprising a substrate (10) having a first surface and an opposite second surface where the first surface has a data structure formed thereon which includes an anomaly region (12) configured to generate one or more errors when read by the optical reader, a fingerprint region (114) corresponding to a target hash value, a program region (10) corresponding to an executable application program which incorporates a hashing algorithm, a metallic reflective layer (10) disposed over the data structure, and a protective layer (10) disposed over the reflective layer.

**Published:**

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

12 August 2004

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US03/40479

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : HO4N 7/167

US CL : 380/201

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 380/201,203;369/52,53.21,42.27,84,30.04,30.05,47.1,47.12,47.14,27.1,275.4,272,273,286,292

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4,734,796 A (GRYNBERG et al.) 29 March 1988, abstract, fig. 1, col. 1 line 41 through col. 2 line 56.	1-23
Y	US 4,584,641 A (GUGLIELMINO) 22 April 1986, abstract, fig. 1, fig. 2, col. 1 lines 32 - 53, col. 2 lines 1-68.	1-23
Y	US 4,577,289 A (COMERFORD et al.) 18 March 1986, abstract, fig.s 2-7, col. 2 lines 35-59.	1-23
Y	US 4,849,836 A (KACHIKIAN) 18 July 1989, abstract, fig. 6, col. 2 lines 3-26, col. 2 lines 46-68,	1-23
Y	US 5,724,327 A (TIMMERMANS et al.) 03 March 1998, abstract, fig.s 1a-d, 2, 7, 8, col. 1 line 5-col.3 line 20.	1-23
Y	US 6,314,518 B1 (LINNARTZ) 06 November 2001, abstract, fig. 3, col 1 line 5 - col. 2 line 41.	1-23



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

15 April 2004 (15.04.2004)

Date of mailing of the international search report

18 JUN 2004

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Facsimile No. (703) 305-3230

Authorized officer

Greg Morse

Telephone No. 703-305-3900

James R. Matthews